

Remarks/Arguments:

On page 2 of the Office Action, claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Sawyer (USPN 5,828,737). It is respectfully submitted however, that claim 1 is patentable over the art of record for the reasons set forth below.

Independent claim 1 recites a data processing method where pieces of information such as schedule of usage of the transmission band and schedule of available transmission band define a band reservation rule ("schedule of usage...schedule of the transmission band which is available...as defined as a band reservation rule"). Furthermore, the band reservation rule is used for partially assigning and exchanging the bandwidth between a plurality of terminals in order to maximize usage efficiency of the available transmission band ("transmission band is partially assigned or partially exchanged...for maximizing the usage efficiency of all the available transmission band...based on...a band reservation rule").

Stated in the specification on page 20 lines 24-25, there is a partial reserving or exchanging of the transmission band ("data relay processing unit 100 makes it possible to assign or exchange a part, or all, of the band"). Partial reserving or exchanging is needed to efficiently manage the utilization of the transmission band. An example of partial reserving of the transmission band is shown in figure 2 of the specification. In this example the entire transmission band can accommodate transmissions up to 15 Mbps. Terminal unit A has a partial rate of 10 Mbps reserved between 0 and 5 hours. Terminal unit B has a partial rate of 5 Mbps reserved during the same time period. In this reservation, all of the available transmission band is utilized efficiently. Furthermore, partial exchange of the transmission band is shown in figure 3 of the specification. Figure 3 shows terminal unit A communicating at a rate of 10 Mbps with server 1 before the exchange. It also shows terminal unit B communicating at a rate of 10 Mbps with server 2 before the exchange. After the partial exchange of transmission band, terminal unit A communicates at 8 Mbps with server 1 and 2 Mbps with server 2. Terminal unit B communicates at 2 Mbps with server 1 and 8 Mbps with server 2. In this exchange the overall 10 Mbps transmission requirement of terminal A and B is satisfied by partially exchanging transmission band between server 1 and 2. Furthermore, pages 22 and 23 of the specification teach that

partial reserving and exchanging of transmission band is performed based on a **band reservation rule** for **maximizing the usage efficiency of all the available transmission band** ("based on the usage schedule...as a usage plan of the network resources...thereby the usage efficiency...can be expected to improve"). The band reservation rule is based on the **schedule of usage** of each terminal and the **schedule of available bandwidth to be assigned**. For example, figure 2 shows a system wherein 15 Mbps is the available transmission band to be assigned. In this particular example, between 0 and 5 hours terminal A uses 10 Mbps and terminal B uses 5 Mbps. Based on this available transmission band and the schedule of usage of terminals A and B, all 15 Mbps of transmission band are able to be assigned and therefore efficiently utilized. Not only are the bandwidth requirements of terminals A and B satisfied, but the overall usage efficiency of the overall bandwidth is increased due to partially reserving available bandwidth based on the bandwidth reservation rule.

Sawyer, in the abstract teaches a system for estimating bandwidth usage of a plurality of communication devices and then charging the devices a price based on their usage ("charge for the communication is then determined by...the estimated total bandwidth"). Figure 1 of Sawyer shows a plurality of communication devices connected to a node for communication. Figures 3A and 3B, show the usage of the available bandwidth on communication link 18. These figures are described in column 3 lines 36-40 ("use of available bandwidth on either communication links 18"). For example, communication devices 16 are varying their usage of bandwidth over link 18 in a specific time frame. Sawyer is merely concerned with charging the communication devices based on their individual bandwidth usage and is not concerned with a bandwidth rule for increasing the usage efficiency of the available bandwidth. Specifically, Sawyer does not teach partially assigning and **partially exchanging** bandwidth for maximizing the usage efficiency of available bandwidth based on a **band reservation rule**. Furthermore, Sawyer's communication devices 16 communicate with the same node independent of one another and therefore **cannot partially exchange** bandwidth.

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Accordingly, for the reasons set forth above, claim 1 is patentable over the art of record.

Claims 2, 41 and 42 include all the features of claim 1 from which they depend. Thus, claims 2, 41 and 42 are also patentable over the art of record for the reasons set forth above.

Respectfully submitted,

RatnerPrestia



Allan Ratner, Reg. No. 19,717
Attorney for Applicants

RAE/rae/dmw/mjc/fp

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P.O. Box 980
Valley Forge, PA 19482
(610) 407-0700

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